

## Toilet mastectomy: 12 year-experience of a high-volume breast surgery center

Toilet mastectomy

Murat Kartal<sup>1</sup>, Tolga Kalaycı<sup>2</sup>, Vefa Atış<sup>1</sup>, Fuat Şentürk<sup>3</sup>, Erdem Karadeniz<sup>1</sup>, Müfide Nuran Akçay<sup>1</sup><sup>1</sup> Department of General Surgery, Faculty of Medicine, Atatürk University, Erzurum<sup>2</sup> Department of General Surgery, Faculty of Medicine, Ağrı İbrahim Çeçen University, Ağrı<sup>3</sup> Department of Surgical Oncology, Faculty of Medicine, Atatürk University Erzurum, Turkey

This study was presented as an oral presentation at the 1<sup>st</sup> International 4<sup>th</sup> National Breast Surgery Congress, Nevşehir, Turkey, 2023

### Abstract

**Aim:** Breast cancer is a global public health problem, and the life-saving effect of early diagnosis and treatment is evident. This study aimed to present the clinicopathological features of patients who underwent toilet mastectomy for metastatic breast cancer.

**Material and Methods:** Files of patients who underwent toilet mastectomy for metastatic breast cancer in a high-volume breast surgery center between January 2011 and January 2023 were retrospectively reviewed. Clinicopathological data of the patients were gathered and presented.

**Results:** Of the 32 patients who met the study criteria, 31 (96.9%) were female, and the mean age was 60 (33-85) years. There was involvement in the left breast in 19 (59.3%) patients and in the right breast in 13 (40.7%). Indications for surgery were ulceration in 13 (40.6%) patients, infection in 11 (34.4%) patients, and bleeding in 8 (25%) patients. Twenty-four (75%) of the defects were closed primarily, 6 (18.8%) with a skin graft and 2 (6.2%) with an advancement flap. Morbidity and mortality rates of the study were 37.5% (n=12) and 3.2% (n=1), respectively, and the most common postoperative complication was bleeding at the surgical site (n=5; 15.6%).

**Discussion:** In the presence of an overgrowth of tumor tissue, chest wall invasion, ulceration of the breast skin, discharge or bleeding, toilet mastectomy performed without adhering to oncological principles is aimed at reducing the tumor burden and increasing the quality of breast cancer.

### Keywords

Bleeding, Mastectomies, Morbidities

DOI: 10.4328/ACAM.21777 Received: 2023-06-04 Accepted: 2023-07-10 Published Online: 2023-08-30 Printed: 2023-09-01 Ann Clin Anal Med 2023;14(9):793-796

Corresponding Author: Murat Kartal, Department of General Surgery, Faculty of Medicine, Atatürk University, Erzurum, Turkey.

E-mail: m.kartal2587@gmail.com P: +90 507 191 96 09

Corresponding Author ORCID ID: <https://orcid.org/0000-0003-1396-5365>

This study was approved by the Clinical Research Ethics Committee of Atatürk University Faculty of Medicine (Date: 2023-05-02, No: B.30.2.ATA.0.01.00/356)

## Introduction

Breast cancer is the second most common cancer in the world after lung cancer and the most common cancer in the female gender. On the other hand, it ranks second among cancer-related deaths worldwide [1]. Survival due to breast cancer varies according to the cancer stage. At the time of diagnosis, 65% of the cases have localized breast cancer, 26% have regional breast cancer, and 5% have metastatic breast cancer. While 5-year survival is approximately 99% in localized breast disease, this rate drops to 29% in the presence of distant metastases [2].

The determinant of breast cancer treatment is the cancer stage at the time of diagnosis. Although surgery has a place in breast cancer at every stage, it is the first choice in localized breast cancer. In regional diseases, surgery is applied after chemotherapy and radiotherapy. However, the place of surgical treatment in metastatic disease is quite limited. In metastatic disease, surgical treatment is mainly applied to tumor-related complications (bleeding, infection, and ulceration). This palliative surgery is called a toilet mastectomy. Toilet mastectomy is performed without adhering to oncological principles and aims to increase the patient's quality of life by reducing the tumor burden [3].

This study aimed to present the clinicopathological features of patients who underwent toilet mastectomy for metastatic breast cancer.

## Material and Methods

This retrospective study was conducted after ethical approval by the Clinical Research Ethics Committee of Atatürk University Faculty of Medicine (Decision number: B.30.2.ATA.0.01.00/356; Decision date: 02.05.2023). Files of patients who underwent toilet mastectomy for metastatic breast cancer in the Atatürk University Faculty of Medicine Department of General Surgery between January 2011 and January 2023 were retrospectively reviewed. The age and gender of the cases, comorbid disease status, the reason for performing toilet mastectomy (infection, bleeding, or ulceration), the location of the metastasis focus, the type of surgery, pathological data, and morbidity and mortality were evaluated. The presence of complications occurring in the first 30 days postoperatively was evaluated for morbidity, while the mortality that occurred in the first 30 days postoperatively was taken as the basis for mortality. In addition, postoperative survival status was determined using the E-Nabız system (the Ministry of Health of the Republic of Turkey application) and by phone calling the relatives of the cases.

### Ethical Approval

Ethics Committee approval for the study was obtained.

## Results

Of the 32 patients who met the study criteria, 31 (96.9%) were female, and the mean age was 60 (33-85) years. There was involvement in the left breast in 19 (59.3%) patients and in the right breast in 13 (40.7%). At least one comorbid disease was present in 23 (71.9%) patients, and the most common comorbid disease was hypertension (n=14, 43.8%). In preoperative imaging, 8 (25%) patients had vertebrae, 5 (15.6%) lung, 3 (9.3%) liver and 2 (6.2%) multiple metastases. Indications for

surgery were ulceration in 13 (40.6%) patients, infection in 11 (34.4%) patients, and bleeding in 8 (25%) patients. Mastectomy and various levels of axillary dissection were performed in all patients. Twenty-four (75%) of the defects were closed primarily, 6 (18.8%) with a skin graft and 2 (6.2%) with an advancement flap. Morbidity and mortality rates of the study were 37.5% (n=12) and 3.2% (n=1), respectively, and the most common postoperative complication was bleeding at the surgical site (n=5; 15.6%).

The most common pathology diagnosis was invasive ductal carcinoma (n=27; 84.3%), and 6 (18.8%) patients had positive surgical margins. The clinicopathological features of the patients are shown in Table 1. In addition, the mean survival time was found to be 25 (0-62) months.

**Table 1.** Examination of clinicopathological features of patients who underwent toilet mastectomy

Parameter	n (%) or mean ± standard deviation
Age	60 (33-85) years
Gender	
Female	31 (96.9)
Male	1 (3.1)
Comorbid disease	
Hypertension	14 (43.8)
Chronic obstructive pulmonary disease	6 (18.8)
Diabetes mellitus	3 (9.3)
Cerebrovascular disease	1 (3.2)
Localization	
Left breast	19 (59.3)
Right breast	13 (40.7)
Metastasis site	
Vertebrae	8 (25)
Lung	5 (15.6)
Liver	3 (9.3)
Multi-organ metastasis	2 (6.2)
Surgery indication	
Ulceration	13 (40.6)
Infection	11 (34.4)
Bleeding	8 (25)
Defect area closure	
Primary closure	24 (75)
Closure with a skin graft	6 (18.8)
Advancement flap closure	2 (6.2)
Pathology	
Invasive ductal carcinoma	27 (84.3)
Malignant epithelial tumor	3 (9.3)
Phyllodes tumor	1 (3.2)
Neuroendocrine tumor	1 (3.2)
Postoperative complications	
Bleeding	5 (15.6)
Pleural effusion	4 (12.5)
Opening at the incision	3 (9.3)

## Discussion

The incidence of breast cancer is increasing in our country as well as all over the world. The stage of the disease at the time of diagnosis is the most important indicator that affects treatment planning and prognosis. Lack of education, awareness of breast cancer, socioeconomic reasons and false beliefs make it difficult to detect the disease early. While the incidence of locally advanced breast cancer is 20% in the western regions of our country, this rate rises to 50% in the eastern regions [4]. The mainstay of treatment in advanced breast cancer is systemic therapy. Although recent studies show that primary tumor resection reduces tumor burden and increases survival, surgical treatment in advanced diseases is still controversial. Surgical treatment is mainly applied in symptomatic diseases such as bleeding, ulceration, and infection to improve the patient's quality of life, and this surgery is called a toilet mastectomy [5, 6].

In advanced breast cancer, the patient's complaints may be symptoms specific to the metastatic organ and infection, ulceration, or bleeding in the breast skin. In a study by Constantin et al., the most common complaint at admission in patients who underwent toilet mastectomy was ulceration and infection [7]. Ulceration on the skin of the mammary gland facilitates super-infection, resulting in a foul-smelling and abscess-containing infection. The increased vascularity of the tumoral tissue prepares the ground for bleeding. Bleeding of tumoral tissue opened to the skin may cause continuous blood loss and anemia symptoms in patients. These bleedings can be controlled with local treatments or may require surgical intervention. Affecting the nerves innervating the breast can cause severe pain in the patient. Pain can be controlled with local or systemic analgesics, but surgery may be considered in appropriate patients, given the side effects associated with long-term use [8, 10]. In our study, the most common complaint of patients who underwent toilet mastectomy was ulceration, followed by infection and bleeding.

Chemotherapy is primarily applied in advanced breast cancer, and the place of surgery is limited. In patients with ulcers, infections and bleeding masses, toilet mastectomy is preferred mainly. The issue of adding axillary dissection to mastectomy in these patients is controversial. In patients with locally advanced breast cancer without distant metastases, adding axillary dissection may increase the survival time. Still, the application of complete axillary dissection in patients with distant metastases should be decided by evaluating the benefit and additional morbidity that it will bring to the patient [11]. In our study, 56.1% of the patients had distant metastases, and all patients underwent salvage mastectomy and varying degrees of axillary dissection.

Removal of large volumes of tumor and necrotic tissue from the breast usually results in a large defect in the chest wall. It is important to note that the chest wall requires adequate soft tissue reconstruction with function, stability, integrity, and an aesthetically acceptable outcome in these patients. Many authors have suggested closure of the thoracic defect using local flaps (e.g., bilateral advancement flap, thoracoabdominal or thoracoepigastric flap) or skin grafts. The choice should be made according to the size and location of the flap, considering

the risk of postoperative tension and flap necrosis, which prolongs the duration of adjuvant chemotherapy [12, 13]. The defects of 24 patients in the present study were closed primarily, six with skin grafts and 2 with advancement flap.

## Conclusion

Breast cancer is a global public health problem, and the life-saving effect of early diagnosis and treatment is evident. With the detection of the disease at an early stage, good oncological results such as longer disease-free and more prolonged survival can be obtained. However, in patients diagnosed at an advanced stage, both treatment options are limited, and oncological outcomes are poor. In the presence of an overgrowth of tumor tissue, chest wall invasion, ulceration of the breast skin, discharge or bleeding, toilet mastectomy performed without adhering to oncological principles is aimed at reducing the tumor burden and increasing the quality of breast cancer.

## Scientific Responsibility Statement

The authors declare that they are responsible for the article's scientific content including study design, data collection, analysis and interpretation, writing, some of the main line, or all of the preparation and scientific review of the contents and approval of the final version of the article.

## Animal and human rights statement

All procedures performed in this study were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards. No animal or human studies were carried out by the authors for this article.

## Funding: None

## Conflict of interest

The authors declare no conflict of interest.

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**How to cite this article:**

Murat Kartal, Tolga Kalaycı, Vefa Atış, Fuat Şentürk, Erdem Karadeniz, Müfide Nuran Akçay. Toilet mastectomy: 12 years experience of a high-volume breast surgery center. *Ann Clin Anal Med* 2023;14(9):793-796

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